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Filed: Herewith

Title: METHOD FOR TREATMENT OF GLUTAMATE RELATED DISORDERS

IN THE CLAIMS

Please delete claims 1-43 and add the following new claims 44-64.

44. A unit dosage form of a pharmaceutical composition comprising: a compound of Formula I:

$$(R^1)(R^2)N$$

$$S$$

$$(O)_r$$

$$R^3$$

wherein

a) R^1 and R^2 are individually (C_1-C_8) alkyl, (C_6-C_{12}) aryl, or heteroaryl; or R^1 and R^2 together with the nitrogen to which they are attached are a 4-8 membered ring optionally comprising 1, 2, or 3 additional heteroatoms selected from the group consisting of non-peroxide oxygen, sulfur, and $N(R_a)$, wherein each R_a is absent or is hydrogen, (C_1-C_8) alkyl, (C_1-C_8) alkyl, penyl, benzyl, or phenethyl; and R^3 is hydrogen, (C_1-C_8) alkyl, (C_6-C_{12}) aryl, heteroaryl, $SC(=S)N(R^1)(R^2)$, or a glutathione derivative; or

b) R^1 and R^3 together are a divalent ethylene or propylene chain and R^2 is (C_1-C_8) alkyl, (C_6-C_{12}) aryl, or heteroaryl; or

c) R^1 and R^2 together with the nitrogen to which they are attached are an azetidino, pyrrolidino, piperidino, hexamethyleneimin-1-yl, or heptamethylene-imin-1-yl ring, the ring being substituted on carbon by a substituent R_b ; wherein R_b and R^3 taken together are methylene, ethylene, or a direct bond; and wherein the ring comprising R_b and R^3 is a five-or six-membered ring:

wherein any aryl or heteroaryl in R^1 , R^2 , or R^3 may optionally be substituted with 1, 2, or 3 substituents selected from the group consisting of halo, nitro, cyano, hydroxy, $(C_1\text{-}C_8)$ alkanoyl, $(C_1\text{-}C_8)$ alkanoyl, $(C_2\text{-}C_8)$ alkanoyloxy, trifluoromethyl, trifluoromethoxy, and carboxy;

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X is O or S: and

n is 0, 1, or 2;

or a pharmaceutically acceptable salt thereof;

and a pharmaceutically acceptable excipient.

- 45. The unit dosage form according to claim 44, wherein the unit dosage form is at least one tablet, or hard or soft gelatin capsule.
- 46. The unit dosage form according to claim 44, wherein the unit dosage form is at least one aqueous solution, suspension, or liposome.
- The unit dosage form according to claim 44, wherein the dosage unit form is formulated for parenteral administration.
- 48. The unit dosage form according to claim 47, wherein the dosage unit form is an ampule, prefilled syringe, small volume infusion container, or multi-dose container.
- 49. The unit dosage form according to claim 44, wherein the dosage unit form is formulated for topical administration.
- The unit dosage form according to claim 49, wherein the dosage unit form is a cream, ointment, lotion, or transdermal patch.
- 51. The unit dosage form according to claim 44, wherein the dosage unit form is formulated for oral administration.
- The unit dosage form according to claim 51, wherein the dosage unit form is a lozenge, pastille, mucoadherent gel, or mouthwash.

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- The unit dosage form according to claim 44 further comprising at least one flavoring, coloring, anti-microbial agent, or preservative.
- 54. The unit dosage form according to claim 44, wherein the compound of Formula I is present in an amount of about 0.005% to about 99% by weight of the unit dosage form.
- 55. The unit dosage form according to claim 44, wherein the compound of Formula I is present in an amount of about 0.1% to about 95% by weight of the unit dosage form.
 - 56. A unit dosage form of a pharmaceutical composition comprising: a compound of Formula I:

$$(R^1)(R^2)N$$

$$\downarrow_{R^3}$$

$$(I)$$

wherein

- (a) R¹ and R³ together are a divalent ethylene or propylene chain and R² is (C₁-C₈) alkyl, (C₆-C₁₂) aryl, or heteroaryl; or
- (b) R^1 and R^2 together with the nitrogen to which they are attached are an azetidino, pyrrolidino, piperidino, hexamethyleneimin-1-yl, or heptamethylene-imin-1-yl ring, the ring being substituted on carbon by a substituent R_b ; wherein R_b and R^3 taken together are methylene or a direct bond; and wherein the ring comprising R_b and R^3 is a five- or sixmembered ring;

wherein any aryl or heteroaryl in R^1 , R^2 , or R^3 may optionally be substituted with 1, 2, or 3 substituents selected from the group consisting of halo, nitro, cyano, hydroxy, $(C_1\text{-}C_8)$

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alkoxy, (C1-C8) alkanoyl, (C2-C8) alkanoyloxy, trifluoromethyl, trifluoromethoxy, and carboxy:

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X is O or S; and

n is 0, 1, or 2;

or a pharmaceutically acceptable salt thereof; and

a pharmaceutically acceptable excipient.

- 57. The unit dosage form according to claim 56, wherein the compound of Formula I is present in an amount of about 0.005% to about 99% by weight of the unit dosage form.
- 58. The unit dosage form according to claim 56, wherein the compound of Formula I is present in an amount of about 0.1% to about 95% by weight of the unit dosage form.
- 59 The unit dosage form according to claim 56, wherein the unit dosage form is at least one tablet, hard or soft gelatin capsules, aqueous solutions, suspension, or liposome.
 - 60. The unit dosage form according to claim 56, wherein n is 2.
 - The unit dosage form according to claim 56, wherein X is S. 61.
- 62. The unit dosage form according to claim 56, wherein n is 0, 1, or 2 and X is O.
 - 63. A unit dosage form of a pharmaceutical composition comprising: a compound of Formula I:

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$$(R^1)(R^2)N$$

$$\downarrow S$$

$$\downarrow$$

wherein

R1 and R2 are individually (C1-C8) alkyl, (C6-C12) aryl, or heteroaryl; or

 R^1 and R^2 together with the nitrogen to which they are attached are a 4-8 membered ring optionally comprising 1, 2, or 3 additional heteroatoms selected from the group consisting of non-peroxide oxygen, sulfur, and $N(R_a)$, wherein each R_a is absent or is hydrogen, $(C_1$ - $C_8)$ alkyl, $(C_1$ - $C_8)$ alkanoyl, phenyl, benzyl, or phenethyl; wherein in any aryl or heteroaryl in R^1 or R^2 may optionally be substituted with 1, 2, or 3 substituents selected from the group consisting of halo, nitro, cyano, hydroxy, $(C_1$ - $C_8)$ alkoxy, $(C_1$ - $C_8)$ alkanoyl, $(C_2$ - $C_8)$ alkanoyloxy, trifluoromethyl, trifluoromethoxy, and carboxy;

R3 is a glutathione derivative;

X is O or S: and

n is 0, 1, or 2;

or a pharmaceutically acceptable salt thereof; provided the compound is not S-(N,N-diethylcarbamoyl)glutathione; and

a pharmaceutically acceptable excipient.

64. The unit dosage form according to claim 63, wherein the compound of Formula I is present in an amount of about 0.005% to about 99% by weight of the unit dosage form.